

ABSTRACT OF THE DISCLOSURE

An arrayed-waveguide grating type optical multi-demultiplexer includes input waveguides, a first slab waveguide, a channel waveguide array, a second slab waveguide, and output waveguides. A pair of different refractive index regions, each having a refractive index different from that of the second slab waveguide, are formed on the second slab waveguide near a boundary between the second slab waveguide and channel waveguide array. The different refractive index regions project in peninsular shapes from both side portions of the slab waveguide. Light traveling from each waveguide of the channel waveguide array toward the output waveguides passes through the different refractive index regions. An optical distribution with a flattened field-distribution peak is created at a boundary between the second slab waveguide and output waveguides.